IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

MICROSOFT CORPORATION, Plaintiff, v. ALCATEL-LUCENT ENTERPRISE and GENESYS TELECOMMUNICATIONS LABORATORIES, INC., Defendants.	C.A. No. 07-090-SLR **PUBLIC VERSION**

DECLARATION OF WILLIAM H. BECKMANN, PH.D., IN SUPPORT OF MICROSOFT'S OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT OF NONINFRINGEMENT AND INVALIDITY FOR ALL ASSERTED CLAIMS OF U.S. PATENT NO. 6,421,439

I, William H. Beckmann, Ph.D., declare:

1. I, William H. Beckmann, Ph.D., have been retained by counsel for Microsoft Corporation ("Microsoft") to analyze and investigate certain issues relating to U.S. Patent Nos. 6,234,064; 6,278,357; 6,421,439 ("the '439 patent"); and 6,430,289 asserted by Microsoft against Defendants Alcatel-Lucent Enterprise ("ALE") and Genesys Telecommunications, Inc. ("Genesys"). I have personal knowledge of the matters stated in this declaration and would testify truthfully to them if called upon to do so.

2. I have nearly thirty years of experience in the telecommunications field, including unified communication systems and computer telephony. Between 1995 and 1999, for example, I served as a Vice President at IBM Corporation responsible for broadband digital solutions and digital video systems and headed the team responsible for IBM's corporate strategy for digital broadband. Between 1984 and 1989, I served as a manager at Bell Communications Research responsible for integrating ISDN and Advanced Intelligent Networks and for the design of

multimedia network systems. Between 1980 and 1984, I served as a manager and lead systems engineer at Bell Laboratories, where I created and managed a group responsible for systems integration of packet-switched data networks with voice networks and also designed and developed fast packet switching systems for voice and data traffic. During that time, I also served as an adjunct professor of Telecommunications Engineering at Rensselaer Polytechnic Institute. I received a bachelor's degree in Mathematics from Davidson College in 1972, a master's degree in mathematics from Cornell University in 1974, and a Ph.D. in mathematics from Cornell University in 1980. Additional information regarding my technical background is included in my resume, which is attached hereto as Exhibit 1.

3. I understand that the first step in determining whether a patent claim is infringed is determining how the terms of the asserted claims should be construed. While the Court has not yet construed the terms at issue here, I understand that the parties have an ongoing dialogue on claim construction, have exchanged initial proposed constructions, and have provided opening briefs on claim construction to the Court. I further understand that the claims are to be interpreted from the perspective of a person of ordinary skill in the time of the invention. In that regard, I understand that I may provide relevant background information to assist the Court in understanding the technology at issue and in construing the asserted claims from the perspective of a person of ordinary skill in the relevant art.

4. In assessing infringement, I understand that literal infringement of a patent claim requires that each limitation of the claim is present in the accused product. I also understand that indirect infringement of a patent claim requires that the indirect infringer have contributed to or induced another to directly infringe a patent claim.

5. It is my understanding that a patent claim is presumed valid. I understand that a patent claim can be rendered invalid only by clear and convincing evidence. It is my understanding that a patent claim is invalid as anticipated when a single prior art reference discloses each and every limitation of that claim, as properly construed. In addition, I understand that the prior art reference must enable one of ordinary skill in the art to practice the claim without undue experimentation.

6. I have reviewed the '439 patent and each of the accused systems.

7. I have also reviewed Defendants' Motion for Summary Judgment of Noninfringement and Invalidity for all Asserted Claims of U.S. Patent No. 6,421,439 and the Declaration of Henry Hyde-Thomson in Support of Defendants' Motions for Summary Judgment of Noninfringement and Invalidity for all Asserted Claims of United States Patent Nos. 6,623,064, 6,728,357, 6,640,289, and 6,421,439 (collectively "Microsoft Patents") and all documents and exhibits cited therein.

8. Additionally, I have reviewed all documents cited in this declaration and the documents attached to the Declaration of Raymond Scott.

9. I incorporate by reference my two expert reports – Expert Report of William H. Beckmann, Ph.D. and Second Expert Report of William H. Beckmann, Ph.D., including the exhibits attached thereto. True and correct copies of the reports are attached as exhibits to the Declaration of Raymond Scott. Incorporated by reference, and attached hereto as Exhibit 2 for ease of reference, is the chart detailing my opinions regarding infringement of the '439 patent by the OXE system. Incorporated by reference, and attached hereto as Exhibit 3 for ease of reference, is the chart detailing my opinions regarding infringement of the '439 patent by the OXO system.

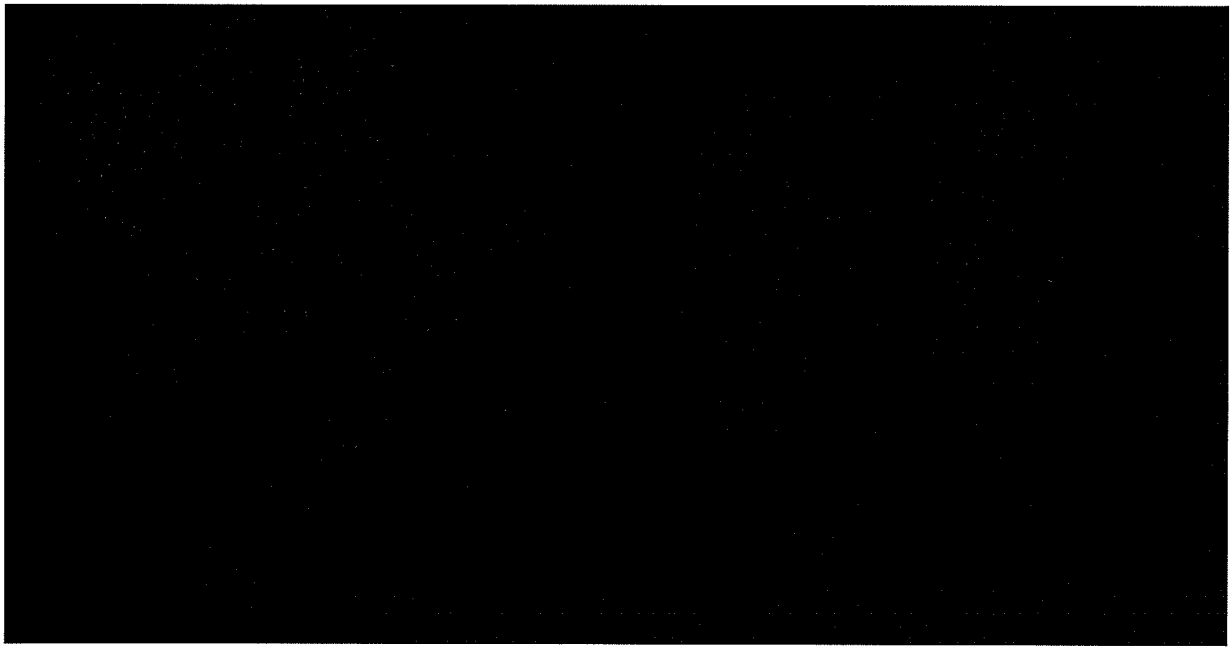
10. It is my opinion that the accused OmniPCX Enterprise system ("the OXE system") infringes claims 1, 2, 9, 21, 24, 28, 36, 38, 43 and 48 of the '439 patent.

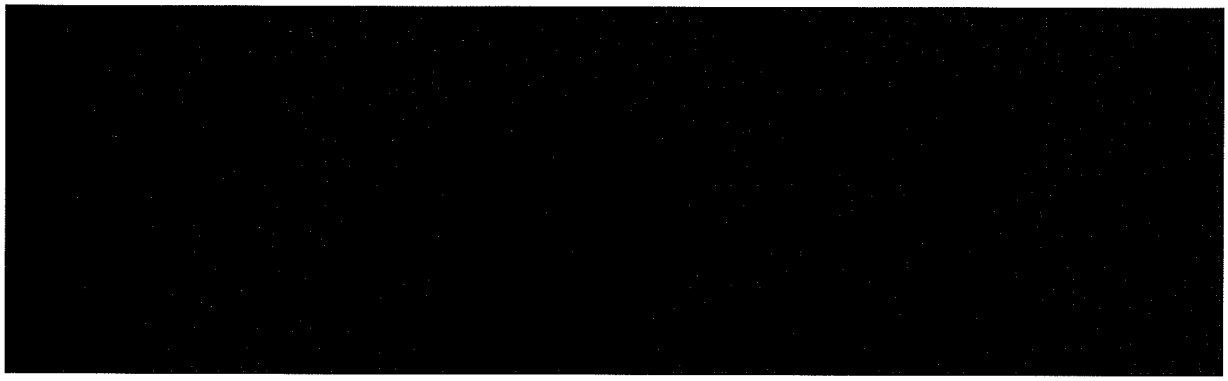
11. It is my opinion that the accused OmniPCX Office system ("the OXO system") infringes claims 1, 2, 21, 28, 38, and 43 of the '439 patent.

12. It is my opinion that the Chestnut patent does not invalidate claims 1, 2, 9, 21, 24, 28, 36, 38, 43, and 48 of the '439 patent.

13. The accused OXE system comprises an OmniPCX Enterprise communication server ("the OXE"); the OmniTouch Unified Communication Suite ("OTUC"), which includes a web-based softphone application ("My Phone"); and may also include the ALE 4980 softphone application ("My Softphone").

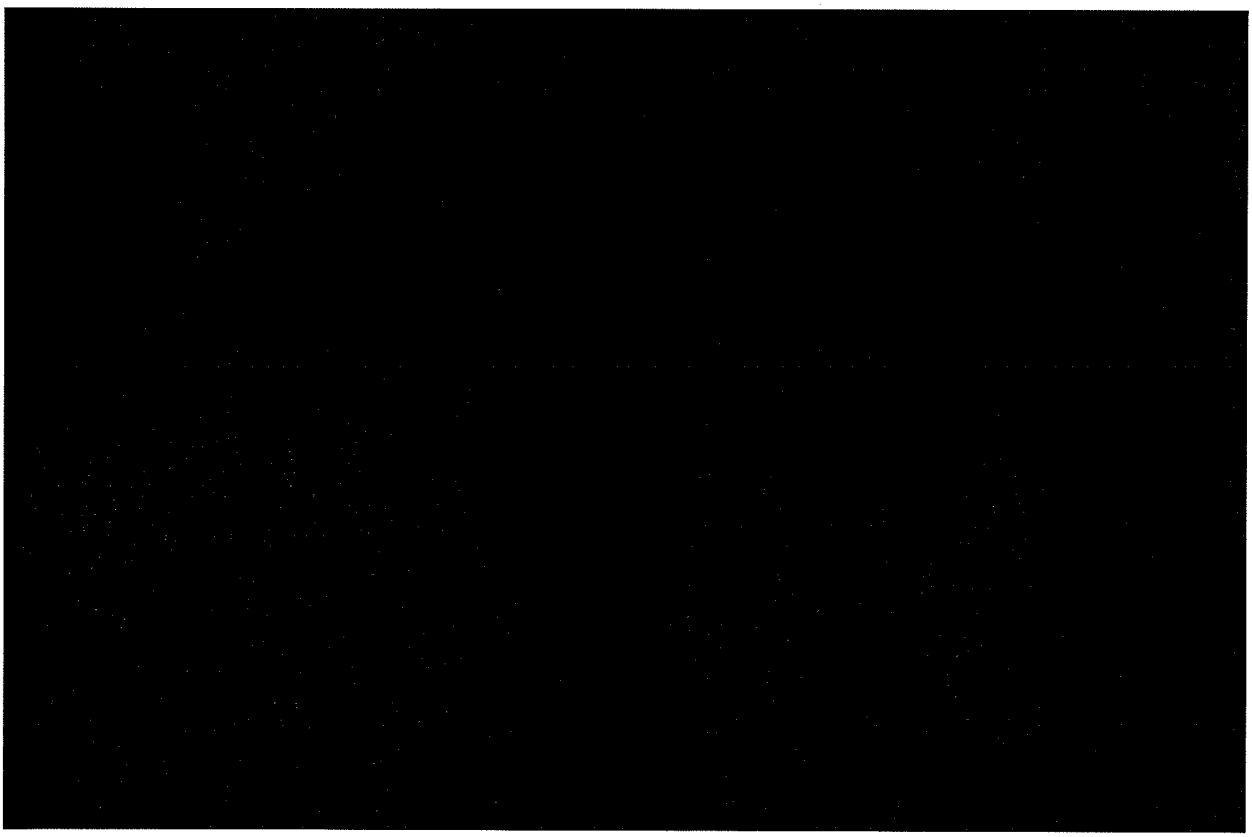
14. A "softphone" – such as My Softphone, or the web-based softphone offered through the My Phone application – is a computer application that allows a user to make telephone calls using his personal computer, rather than a conventional telephone handset.

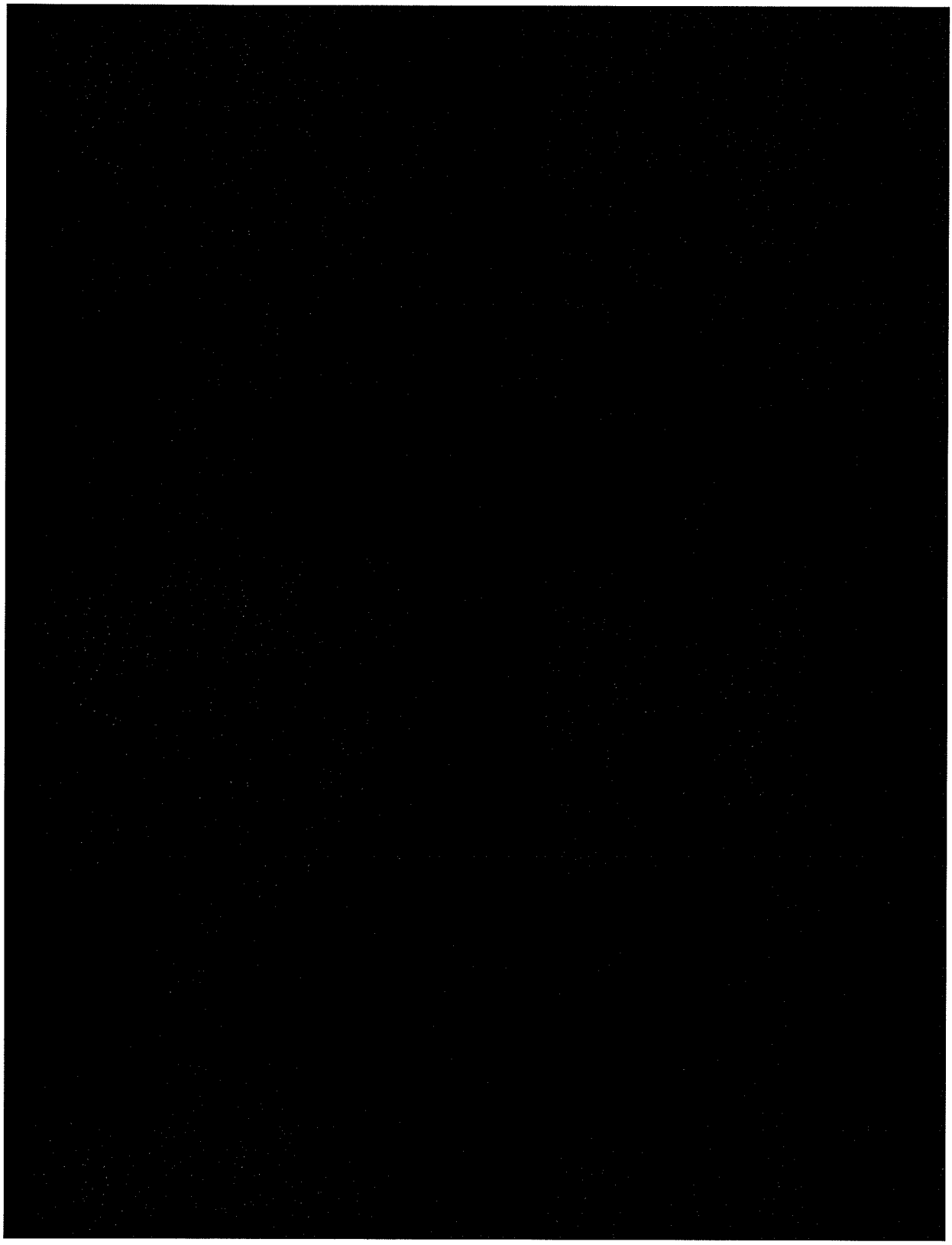


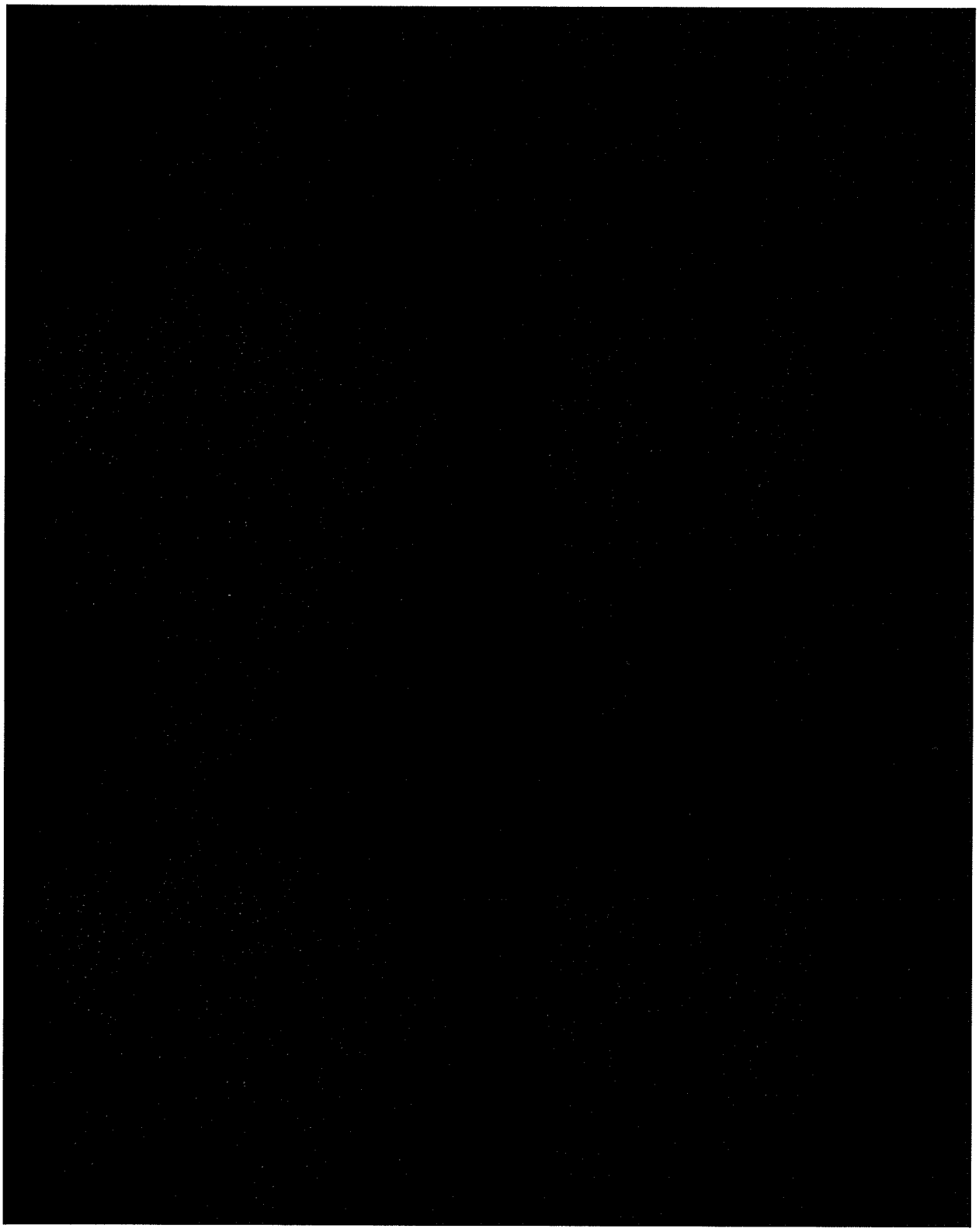


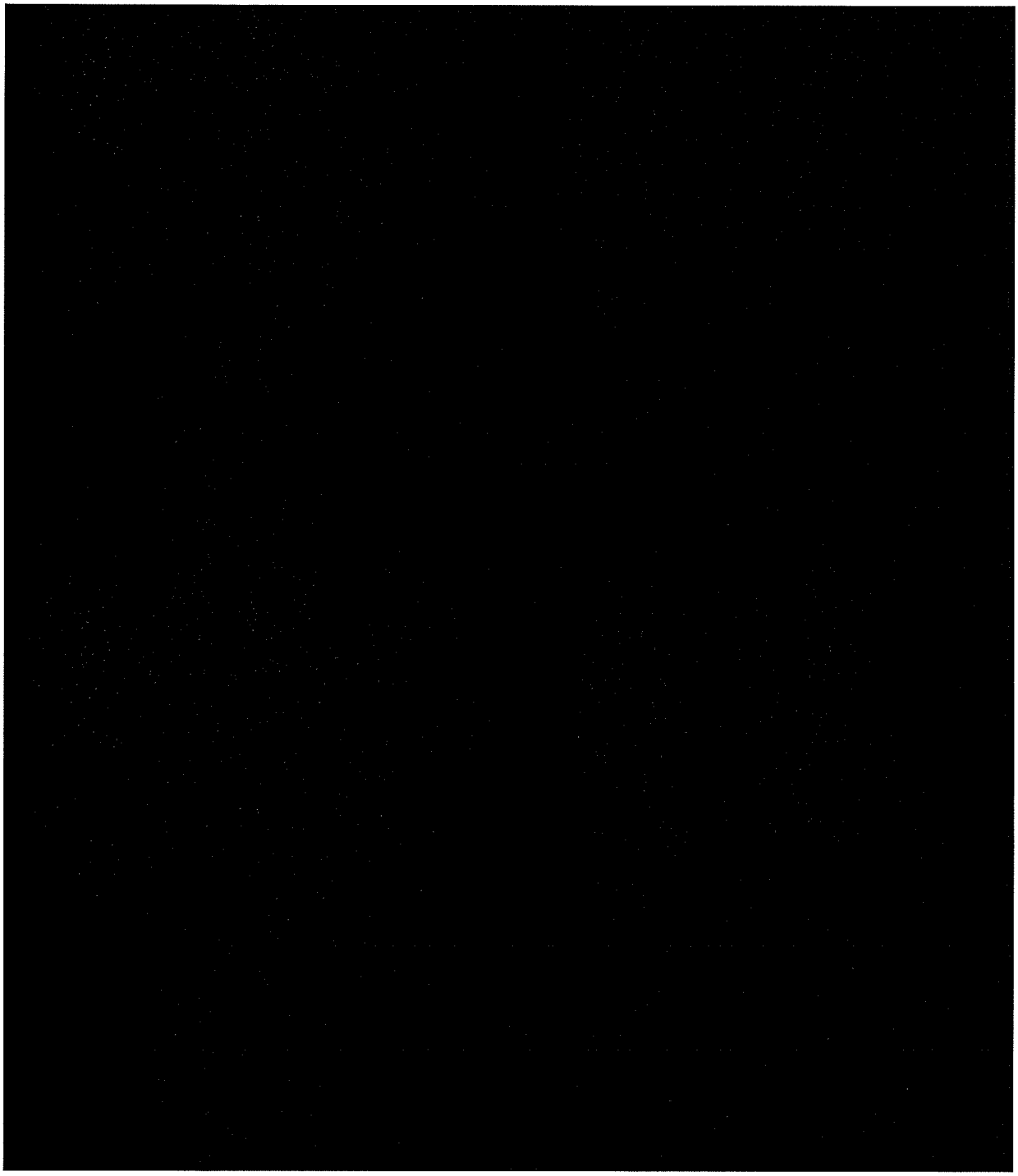
18. Running the softphone application (i.e., using the softphone) requires using the computer's CPU, memory, hard drive, network card, sound card, microphone, speakers, and operating system resources just like any other computer application.

19. For a web softphone call, the computer transmits digital data packets to the OTUC server via the internet in very much the same way that the computer transmits digital data packets when generally uploading files to a standard website on the internet.









33. I have reviewed U.S. Patent No. 6,041,114 to Chestnut (filed Mar. 27, 1997) ("Chestnut").

34. The Chestnut patent discloses a "telecommute server" that is used to implement a method and system for controlling call forwarding, based upon the device used by the called party to log onto a computer network. [See, e.g., Scott Decl., Ex. 36, Chestnut at Abstract.] Chestnut teaches that the location of the called party is determined by associating the device used to log onto a computer network with a particular telephone. [Id.] For example, Chestnut teaches that if the called party was logged onto the computer network from the party's office workstation, then the call would be directed to the party's office extension. [Id. at col. 4:58–60.] If the called party were logged onto the computer network from the home workstation, then the telecommute server would instruct the PBX to forward the call to called party's home phone. [Id. at col. 4:60–64.]

35. Chestnut fails to disclose the limitation "a data structure contained within a computer network to store user-selectable criteria for call processing, wherein the data structure stores the user-selectable criteria in one or more lists that are used in filtering an incoming call."

36. There is no support for ALE's assertion that the "memory" is on the "computer network portion" of the telecommute server. Chestnut does not disclose that the telecommute server is part of both the telephone and computer networks or that the "memory" is on any "computer network portion" of the telecommute server. Chestnut also does not disclose a "memory" storing user-selectable criteria in one or more lists that are used in filtering a call.

37. Chestnut fails to disclose the "lists" or "caller lists." Moreover, the "lists" relied upon by ALE also are not used in filtering an incoming call. [See, e.g., Scott Decl., Ex. 36, Chestnut at col. 6:64–7:12, col.7:50–55.] These "lists" are lists of potential forwarding numbers presented to the caller as options for forwarding the call. [See, e.g., id. at col. 6:64–col.7:12, col. 7:47–55.]

38. Chestnut fails to disclose the limitation "wherein some of the one or more lists are used to filter the incoming call according to current activity of subscribers on the computer network or according to current activity of the user on the computer network."

39. Chestnut fails to disclose filtering the incoming call according to the current activity of the user "on the computer network." Chestnut is directed to forwarding an incoming call, rather than filtering the incoming call according to the current activity of the user on the computer network. Chestnut's call forwarding is based upon the device used to log onto the computer network by the called party, rather than the current activity of the user on the computer network. The act of logging on does not satisfy the "current activity on a computer network" limitation, because it is only a precursor to a user's activity on the computer network. The claim language makes this point clear by requiring that filtering depends on the "current activity on the computer network." [See, e.g., Scott Decl., Ex. 35, '439 patent at col. 14:23–26.] Logging onto the network necessarily means that the user is not yet "on the computer network." Thus, this precursor act cannot satisfy the plain requirement of the claim. The fact that the user is logged on to the computer network also does not give any indication regarding the user's activity or status on the computer network.

40. Chestnut also does not satisfy the requirement that the filtering is according to "current activity" on the computer network. The use of the term "current" in the '439 patent requires the activity to be the current activity of the user on the computer network at that moment in time. The fact that the user is logged on to the computer network does not give any indication regarding the user's current activity or status on the computer network. In Chestnut, the decision of where to forward incoming calls is based on the last location that the user logged on. [See, e.g., Scott Decl., Ex. 36, Chestnut at col. 4:58–64.] This difference between time ('439 patent)

and location (Chestnut) is not insignificant. There is no teaching or disclosure of call filtering based on such "current" activity in the Chestnut patent.

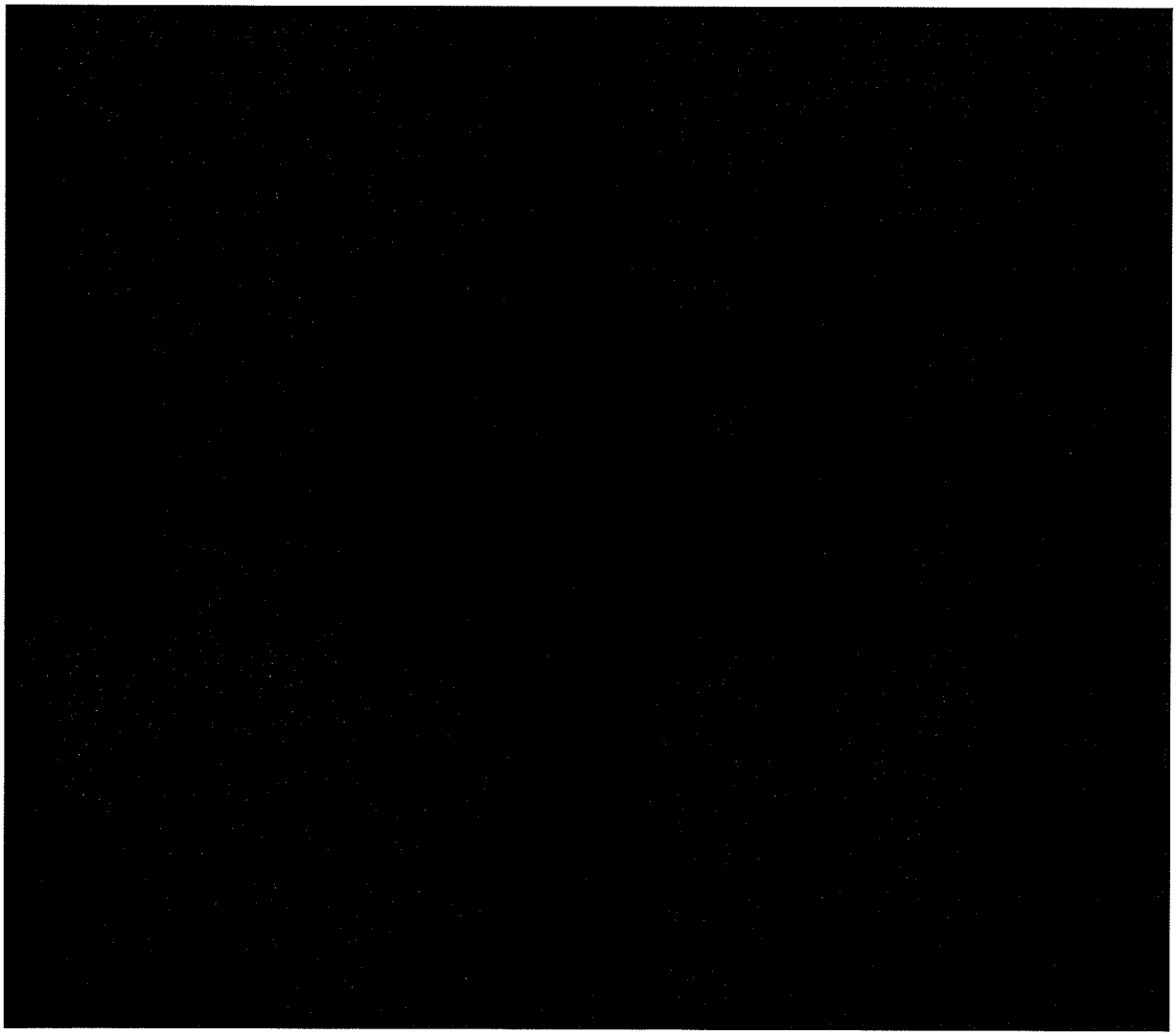
41. Chestnut fails to disclose the limitation "a computer network access port used by the telephone network to access the data structure such that the telephone network has access to the one or more lists over the computer network access port." ALE identifies the "CTI applications" in Chestnut as the "computer network access port." Chestnut does not disclose that any of the "CTI applications" is (a) a computer network access port, or (b) that it is used by the telephone network to access the data structure storing the "one or more lists . . . used to filter the incoming call." In fact, there is no disclosure in Chestnut that any part of the telephone network uses a "CTI application" to access a data structure within the computer network.

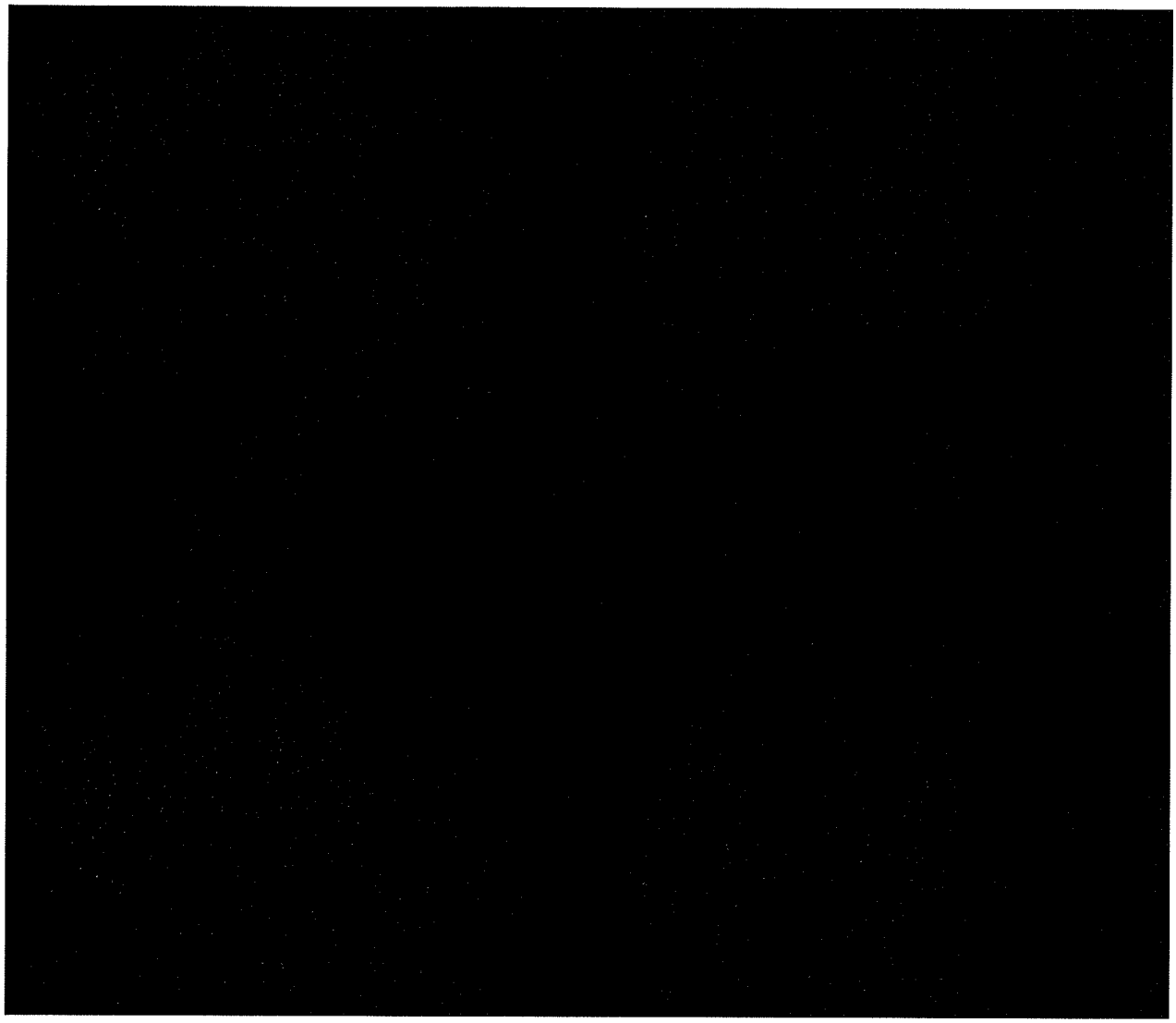
42. Chestnut fails to disclose the limitation "a controller to receive the incoming call designated for the user telephone and to process the incoming call in accordance with the user-selectable criteria, the controller accessing the user-selectable criteria in the one or more lists of the data structure via the computer network access port and thereby applying the user-selectable criteria to the incoming call."

43. ALE identifies the "telecommute server" in Chestnut as the "controller." However, the telecommute server does not receive the incoming call or process the incoming call in accordance with the user-selectable criteria. [See, e.g., Scott Decl., Ex. 36, Chestnut at fig.1.] Instead, Chestnut teaches that the PBX receives and forwards the incoming call. [See, e.g., id. at col. 4:48–57.] Additionally, Chestnut does not disclose that the telecommute server accesses the user-selectable criteria via the "computer network access port," which ALE has identified as the CTI applications.

44. Chestnut does not disclose a "computer program product implementing a method for processing" the incoming call. This limitation cannot be met by some general computer program product with a computer readable medium. Claim 28 claims a computer program product, comprising a computer readable medium, that performs the specific steps recited in the claim. To establish infringement, ALE must points to a specific computer program product, or computer readable medium, that implements the method taught in claim 28.

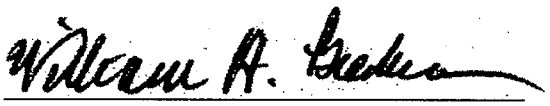
45. It is my opinion that ALE has contributed to and induced the infringement by others of the Microsoft Patents.





I declare under the penalty of perjury under the laws of the United States that the foregoing is true and correct. Executed this 20th day of June 2008 in Cross River, New York.

Respectfully submitted,



William H. Beckmann, Ph.D.

CERTIFICATE OF SERVICE

I hereby certify that on June 27, 2008 the attached **PUBLIC VERSION - DECLARATION OF WILLIAM H. BECKMANN, PH.D. IN SUPPORT OF MICROSOFT'S OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT OF NON-INFRINGEMENT AND INVALIDITY FOR ALL ASSERTED CLAIMS OF U.S. PATENT NOS. 6,421,439** was served on the following individuals via electronic mail:

Jack B. Blumenfeld - jblumenfeld@mnat.com
Maryellen Noreika - mnoreika@mnat.com
Richard J. Bauer - rbauer@mnat.com
MORRIS, NICHOLS, ARSHT & TUNNEL LLP
1201 North Market Street
P.O. Box 1347
Wilmington, DE 19899-1347
(Also served via hand delivery)

Steven C. Cherny - steven.cherny@lw.com
Karen Y. Tu - karen.tu@lw.com
Clement J. Naples - clement.naples@lw.com
LATHAM & WATKINS LLP
885 Third Avenue, Suite 1000
New York, NY 10022

David A. Nelson - david.nelson@lw.com
Alan Devlin - alan.devlin@lw.com
Brett M. Doran - brett.doran@lw.com
LATHAM & WATKINS LLP
Sears Tower, Suite 5800
Chicago, IL 60606

Michael J. Schallop - michael.schallop@lw.com
LATHAM & WATKINS LLP
140 Scott Drive
Menlo Park, CA 94025

Susan S. Azad - susan.azad@lw.com
LATHAM & WATKINS LLP
633 West Fifth Street, Suite 4000
Los Angeles, CA 90071

/s/ Thomas L. Halkowski
Thomas L. Halkowski
halkowski@fr.com

EXHIBIT 1

William H. Beckmann, Ph.D.
Curriculum Vitae

Professional Summary

Dr. Beckmann has almost thirty years of academic and industry experience focused in the fields of communications networks and information technology. He has been responsible for managing and solving business and technical issues in these fields. Dr. Beckmann is an expert in all aspects of broadband network and software technologies and their implementation into advanced communications networks. He has had experience in strategic planning, marketing, business development, technical development, deployment, and management of these technologies and networks.

Expertise

- Advanced Intelligent Networks
- Broadband Communications
- Digital Networking Technologies
- Digital Video Systems
- Distributed Processing Systems
- Network Architecture
- Network Management & Operations
- Software Design & Architecture

Education

Year	College or University	Degree
1980	Cornell University	Ph.D., Mathematics
1974	Cornell University	M.S., Mathematics
1972	Davidson College	B.S., Summa cum Laude, Mathematics

Professional Experience

From:	1999
To:	Present
Organization:	Networking Computing Associates
Title:	President and Co-Founder
Summary:	Network Computing Associates (NCA) is a consulting firm that provides expertise to companies and organizations in making or executing decisions that involve network and information technologies and their integration into the company's business processes. NCA Clientele includes:

William H. Beckmann, Ph.D.
Curriculum Vitae

- Big Think, New York, NY
- Burst.com, San Francisco, CA
- Federal Communications Commission, Washington, DC
- General Electric, Fairfield, CT
- IBM, Somers, NY
- Lucent Technologies, Inc., Murray Hill, NJ
- Sorceron, New York NY
- Zoologic, New York, NY

From: 1995
To: 1999
Organization: IBM Corporation
Title: Vice President
Summary: Dr. Beckmann was responsible for broadband digital solutions and marketing, sales, deployment and development of digital video systems. In 1997, he headed the team that constructed the IBM corporate strategy for digital broadband. Accomplishments include:

- Took a digital video development level project into a global sales & distribution project known as Video Enabled Solutions (VES), with sales teams and support groups throughout the world. VES tied together teams in IBM Global Services, IBM's Systems Integration Division with the IBM Telecommunications & Media sales division. This project included development and sales of the IBM Media Streamer, a Unix-based server that could concurrently stream hundreds of digital broadband channels over cable or DSL transmission systems; and implementation and deployment of this server into a full digital network infrastructure, including operational and management support systems and integration of those systems with other similar systems that the customer may have already installed. Total new revenues for IBM from 1996 to 1998 exceeded $120M.
- The Digital Broadband Strategy, presented to IBM's Chief Technology Council in 1997, addressed how every one of IBM's product, sales, and development groups should approach and assess arising broadband opportunities, and what those opportunities were likely to be. The strategy proposed what alliances IBM should seek and what new lines of business IBM should consider pursuing. The strategy covered all of IBM's technologies, from microelectronics through servers, software, and database and storage systems.

William H. Beckmann, Ph.D.
Curriculum Vitae

From:	1989
To:	1995
Organization:	Ameritech
Title:	Manager and Director in Corporate Strategy
Summary:	Dr. Beckmann had responsibilities in development and deployment of advanced information technologies and multimedia systems. He was the lead in corporate strategy for the merger of five information, accounting, and billing systems of Ameritech's Bell Operating Companies into a single networked system. This effort consolidated Ameritech's various databases, CSR systems, and billing system that were spread out over the five Bell Operating Companies that comprised Ameritech, into a single comprehensive, integrated system. This involved geographical consolidation as well as software & IT consolidation for systems that were mission-critical and 24/7.

To achieve this required:

- Creation of a hot standby system that fully duplicated the data in the existing system in real time.
- Implementation of a high-speed network architecture linking the dispersed systems: the geographical consolidation was initially virtual- enabled by this high-speed networking. This network also fed the standby system.
- Development of an intermediate layer of software that allowed the legacy system software to run as always and permitted insertion of a new interface software layer that made CSR and other agent system interactions consistent and uniform throughout the RBOC service area. This software layer was object-oriented and represented the largest OO software deployment in the country at that time (1989/1990).

As an enhancement to its voice and data transport services, Ameritech considered moving into application transport services that required higher bandwidth: these applications were multimedia in nature. In particular, Ameritech was interested in services that could successfully compete with cable services. This required identification of potential sources of these services: broadcast services, such as those carried by cable, were not legally permitted for the RBOCs. To identify and attract such sources as well as to specify the requirements for the digital content, from a source perspective as well as from a consumer perspective, necessitated execution of the following technical program:

- Analysis of network transmission capabilities applied to actual subscriber loop data (1991 - 1992)
- Mapping of MPEG requirements to ADSL-based and SONET-based benchmarks (1990 – 1992)
- Design of network management systems for support and management of

broadband services

- Trial and Comparison of Fiber-to-the-Home and ADSL delivery of Video-on-Demand and Interactive Video Applications (Geneva Lakes WI, 1992)

From:	1984
To:	1989
Organization:	Bell Communications Research (Bellcore)
Title:	Manager
Summary:	Dr. Beckmann was responsible for integration architectures of ISDN and Advanced Intelligent Networks (AIN) and for design of multimedia network systems (including broadband networks). This work encompassed technology, service, and business issues. Special areas of focus included: (1) remote management, operations, and programming of network nodes (switches, digital cross-connect systems, and data base management systems), software languages and interfaces for such remote systems, and uniform operational and management interfaces to multi-vendor environments; and (2) assessment and, where appropriate, migration of AIN design templates to ISDN and BISDN configurations. Dr. Beckmann also served as the Bellcore graduate school recruiter in electrical engineering and computer science at the University of Southern California (Los Angeles).

From:	1980
To:	1984
Organization:	Bell Laboratories
Title:	Manager (1983-1984) and Member of Technical Staff (1980-1983)
Summary:	During his time at Bell Labs, Dr. Beckmann was responsible for: ▪ Queuing theoretical analysis and algorithmic development for automatic call distribution systems ▪ System design and development (as the lead systems engineer) of a Fast Packet Switching system that digitized and packetized voice and multiplexed and switched voice and data traffic (predecessor of ATM technology) ▪ Creation and management of a group responsible for systems integration of packet-switched data networks with voice networks

William H. Beckmann, Ph.D.
Curriculum Vitae

From: 1982
To: 1982
Organization: Rensselaer Polytechnic Institute
Title: Adjunct Professor of Telecommunications Engineering

From: 1979
To: 1980
Organization: Middlebury College
Title: Assistant Professor of Mathematics and Computer Science and Mellon Fellow

From: 1977
To: 1979
Organization: Middlebury College
Title: Assistant Professor and Mellon Fellow

From: 1978
To: 1978
Organization: Harvard Medical School
Title: Adjunct Professor of Mathematics in the Medical Sciences

From: 1976
To: 1977
Organization: Cornell University
Title: Instructor in Mathematics

From: 1972
To: 1976
Organization: Cornell University
Title: National Science Foundation Graduate Fellow

Consulting Experience

From: 2006
To: 2006

William H. Beckmann, Ph.D.
Curriculum Vitae

Organization: Steptoe & Johnson
Summary: Provided technical consulting in Vonage v. Verizon

From: 1999
To: 1999
Organization: Federal Communications Commission
Summary: Technology and Business consulting on Broadband and Wireless systems

From: 1995
To: 1996
Organization: British Telecom
Summary: Business and technical consulting on engineering and deployment of ADSL and fiber systems, including switching and transmission facilities and information technology, and the underlying network management infrastructure

From: 1992
To: 1993
Organization: Ameritech Development Corporation
Summary: Provided technical and business due diligence analysis and report regarding ADSL and Amati Communications

Litigation Support Experience

Expert Engagement:
Type of Matter: Trade Secrets
Law Firm: McGrane Greenfield LLP
Case Name: Jasmine Networks, Inc. v. Sehat Sutardga, Marvell Semiconductor, Inc.
Services Provided: Expert Witness
Disposition: Ongoing
Date: 2007 -

Expert Engagement:
Type of Matter: Patent Infringement
Law Firm: Bingham McCutchen and Heller Ehrman LLP
Case Name: Inline Connection Corporation v. EarthLink, Inc.
Services Provided: Research; Expert Report; Testified at deposition and trial.

William H. Beckmann, Ph.D.
Curriculum Vitae

Disposition:	Concluded
Date:	2005-2007

Expert Engagement:

Type of Matter:	Patent Infringement
Law Firm:	Heller Ehrman LLP
Case Name:	Inline Connection Corporation v. CONTEL of the South Inc., GTE Southwest Inc., GTE.NET LLC, Telesector Resources Group, Inc., Verizon Internet Services, Inc. et al
Services Provided:	Retained. Research. Case is on hold. Telecommunications\Networking Technology
Disposition:	Continued pending outcome of Inline Connection Corporation v. EarthLink, Inc. above
Date:	2005-Present

Expert Engagement:

Type of Matter:	Patent Infringement
Law Firm:	Steptoe & Johnson
Case Name:	USA Video Technology Corp. (US Video On Demand) v. MovieLink (partners: WB, Paramount, MGM, Universal Studios, Sony Pictures)
Services Provided:	Research; Expert Report; Deposition
Disposition:	Settled
Date:	2004 - 2005

Professional Affiliations

- Member, AMS (American Mathematical Society)
- Member, MAA (Mathematical Association of America)
- Member, AAAS (American Association for the Advancement of Science)
- Member, IEEE (Institute of Electrical and Electronics Engineers)
- Member, ACM (Association of Computing Machinery)

Patents & Publications

Patent	Date Issued	Description
6,675,388	2004	Data distribution system using coordinated analog and digital streams.

William H. Beckmann, Ph.D.
Curriculum Vitae

Presentations

Related to xDSL Technology

1. Panel Member, IEEE Conference on Digital Subscriber Line (DSL) Technologies, San Jose (1992)
2. "Asymmetric Switching Requirements in Digital Switching Systems Generated by ADSL Deployment," invited address at AT&T Conference on Advanced Switching System Technologies, Chicago (1991)
3. "Issues in Preparing for ADSL and HDSL Implementation," talk presented to Regional Bell Operating Company (RBOC) engineers, Chicago (September 1989)
4. "Impact of Digital Processing Requirements for ADSL Deployment in the Intelligent Network," talk presented to Bellcore (September 1988)

Related to General Broadband Technologies and Voice/Data Integration Technologies

1. "Comparison of High Definition Video Alternatives within IP Networks," Joint presentation with Dr. Michael Haley to IETF reviewing Internet-2 (1997)
2. "Management and Operations in a Network Supporting Voice, Data, and Video," Presentation to STET and Telecom Italia, Rome (1996)
3. "FDDI and ATM Network Comparisons and Interfaces," Invited Presentation to Digital Equipment Corporation, Boston (1990)
4. Keynote Address on Digital communications systems and applications at the IEEE International Conference on Digital Communications, Stuttgart (1988)
5. Presentation on "Digital Broadband Networks and Multimedia Applications" at International ISDN Conference in London (1987)
6. "Recommendation for Protocol Headers in Voice Packets," Presentation to Study Group XVIII, CCITT, Geneva (September 1983)
7. "Transport of Voice Streams in an X.25 Network," Presentation to JWG (Study Group VII/XI), CCITT, Washington (June 1983)

Articles and Memoranda

1. "Business and Technical Analysis of Proposed Ethernet Network and IEEE 802.6 Extensions through a WAN," consulting memo for Lucent Technologies (November 1999)
2. "Decisions, Decisions: Digital data broadcasting can provide new revenue streams for telcos, cable companies and DBS service providers," *Telephony* (October 1997)
3. "Online Data Base Systems Using Broadband Networks to Displace Storage Devices," Joint technical memorandum (IBM) with Dr. Ahmed Tantawy (1996)
4. "Stochastic Comparison of Trellis Encoding Parameters," Technical Memorandum (written at Bell Labs, published in Bellcore) (1985)

5. "Performance Analysis of Alternatives in Interconnection of Optical Core Switching Matrices," Technical Memorandum, Bell Telephone Laboratories (1983)
6. "Modifying Banyan Switches to Emulate StarLite Switching Functionality," Technical Memorandum, Bell Telephone Laboratories (1982)
7. "High Density Wave Division Multiplexing in Optical Fiber Transmission and Switching Systems: A Mathematical Model," Technical Memorandum, Bell Telephone Laboratories (1982)
8. "Burst Switching and Jitter in Packetized Voice," Technical Memorandum, Bell Telephone Laboratories (1982)
9. "A Mathematical Model for Discrete Embedding and Extraction of Waveforms," Technical Memorandum (Bell Telephone Laboratories), 1982
10. "Buffer Caching Requirements in a Packetized Voice Network," Technical Memorandum, Bell Telephone Laboratories (1981)
11. "Synchronizing Packet Streams over a Multi-Routing Packet Network," Technical Memorandum, Bell Telephone Laboratories (1981)

Other

1. Co-host, IEEE Globecom "Communications for the Information Age," Hollywood, FL (1988)

EXHIBIT 2

REDACTED
IN ITS ENTIRETY

EXHIBIT 3

REDACTED
IN ITS ENTIRETY